November 2, 2012

Ms. Lise Trudeau
Minnesota Dept. of Commerce
Division of Energy Resources
85 Seventh Place East, Suite 500
Saint Paul, MN 55101

RE: Comments on the 2012 Distributed Generation Workshops series October 11th meeting: costs, values, and benefits of distributive generation and the safety, reliability, and rates associated with increasing levels of clean distributed generation in Minnesota

Dear Minnesota Division of Energy Resources:

As the leading provider of cogeneration wind turbines and provider of small wind turbine turn-key solutions in the State of Minnesota, Renewable Energy SD, LLC (RESD) respectfully submits comments to the October 11th Minnesota Department of Commerce Distributive Generation (DG) workshop. We thank the Department for holding these workshops and hope that Minnesota will move forward with more aggressive and supportive public policies to grow DG wind, solar and bio energy production in the State of Minnesota.

We hope that we can add to the comments already submitted for this workshop by providing an understanding of what it will take to build a robust small wind DG energy production base in Minnesota. We also hope to give some perspective on our current and near-term projects as well as the challenges our customers face to harvesting and producing their own energy to be used at on the farm or at their place of business. RESD and its sister DG project and equipment providers in wind, solar and bio have the capacity to increase DG energy production in Minnesota by several factors over the next decade if current public policies are continued, in some cases expanded and if new incentives and supportive policies are adopted by the State of Minnesota.

Overview:
Renewable Energy SD, LLC (RESD) is a Minnesota owned company Established in 2009 with headquarters in Excelsior Minnesota. RESD employs 31 full time team members and contracts with local Minnesota vendors to install, build, service and manage turn-key small wind turbine solutions that are sized right for our customers and their farming and/or small business operation energy needs.

RESD offers small wind turbine generators to customers and the marketplace with 10, 20, 39.9 and now 100 kW capacity wind turbine generator. Since 2009, RESD has built, installed and commissioned, or put into production, 31 Small wind turbine generators

across the State of Minnesota. RESD has over 100 additional small wind DG customer projects we are currently working on in Minnesota and our projections have us poised to install and commission upwards of 200 sized-right small wind DG facilities over the next half decade. RESD also has small wind DG projects in Wisconsin, Iowa, Illinois, South Dakota and is working to move into the North Dakota marketplace as well.

RESD has set itself apart from other offerings in the small wind marketplace by providing a superior project design and state of the art wind generator technology. Our proprietary 160 ft. lattice towers have been purposely built to put our customer's wind turbine in the best available wind which helps us provide a sustainable and lasting return on investment. Our tower is built to Rev-G specs, beyond the highest standards of building codes in the industry to ensure our customer's wind turbine is safe and reliable. All of our turbines use the latest advanced technologies, such as permanent magnet direct-drive generators, which not only are more efficient and provide higher energy production, but also operate whisper quiet. The direct-drive generators also minimize maintenance, service costs and down or "dead-time" associated with older, in many cases refurbished, gearbox driven machines of the past.

Prior to 2009 and the introduction of the RESD, Polaris 39.9 kW turbine to the Minnesota marketplace, the economics of small wind DG, in most cases, did not add up for many farming, small business and individual investors. This is why for the first 26 years of the Minnesota Net Metering; *Minn. Stat.216B.164* Minnesota's total small wind DG annual production reached approximately 1.5 MW. Since the introduction of the Polaris turbine into the Minnesota marketplace, which takes advantage of its ability to operate just below the 40 kW limit for net metering and the introduction of similar smaller turbines in 2009, Minnesota has seen over a past three years a 100% increase in DG energy production produced by small wind turbines. By combining the federal government's Investment Tax Credit (ITC) incentive and the IRS depreciation with the State's net metering rate program, farming operations and small businesses across Minnesota have begun to see not only the environmental benefits to producing their own renewable and pollution free energy on site, but most importantly have seen the economics of their investment work.

Technology advances and increased energy production from the turbine have made a fairly large investment in a small wind DG facility economically sound and affordable. These advances have led to an approximate 7-10 year pay-off of the capital equipment investment required - utilizing all current federal incentives and the retail rate provided under Minnesota's current net metering rate and pricing scheme. We believe with adjustments to the current Minnesota Net Metering statute and a broader adoption of DG energy factored into utility and electric coop load planning, Minnesota could increase renewable small wind DG energy production by at least a factor of 4 over the next half decade.

Small wind DG should be part of any state strategy for energy generation and use. While small wind DG will not make a serious dent in the State's mandated renewable goals alone, small wind DG must and can be a part of the solution. Community and individual wind is practical, safe, reliable, useful solution and an overall net value to the state's

current and future energy needs and uses. DG should be a part of every small business or agriculture operation whether it's wind, solar or bio DG.

Safety and reliability:

RESD agrees with the Department that DG does not pose or present any safety concerns. As has been noted by comments submitted by Wind on the Wires and others, we agree that there is no safety concerns associated with DG energy production:

> "with regard to issues of safety and reliability, discussions to date have indicated few issues. Requirements for safe interconnection and operation of DG systems are well understood, and the use of UL and IEEE requirements can help to ensure that DG technologies meet standards that safeguard consumers and linemen in Minnesota."

RESD has had no safety issues associated with our installation, servicing, or connecting of our small wind DG facilities. If anything, our and other small wind DG investments in the onsite and interconnection infrastructure of our customer's projects have made energy production safer in Minnesota. However, we have seen electric coops use unsubstantiated "safety concerns" as a tool and tactic to discourage and/or delay the instillation of small wind DG projects. We have repeatedly had to emphasize (and in some cases have the Public Utilities Commission involved) to help make sure electric coops that our customers have interconnection agreements with use and comply with the State's mandated State Contract and Interconnection Process. This has not been the case with any of the other utilities in the state. This well thought out and comprehensive process adopted in 2004 should continue to be the guiding process and legal framework for all Minnesota DG projects.

Costs and benefits:

Small wind is a renewable source of energy that will never go away, never pollute and will promote self-sustainability for farmers, ranchers, small business and public institutions across the State of Minnesota. Small wind, solar (PV) and bio sources of on-site DG energy production realize many benefits for the individual generator owner customer, their neighbors through down-stream load, and all rate payers and electricity users in the State of Minnesota. Local communities and economies benefit from reinvestment in the local grid, from resources spent and jobs created in the local community during assembly, instillation and servicing of DG facilities as well as upgrades that are made to local infrastructure and the ability for locally produced energy use. RESD and its customers alone spent just under $1 million with local businesses, electric coops and Minnesota utilities in 2011. We are projected to exceed this local community and utility investment in 2012. With projects in the pipeline, this investment and spend rate will only increase in the future.

As has been noted by comments provided by others to this workshop there are hundreds or real and societal benefits to DG energy production and specifically renewable DG for

Minnesota. We will not include the list of benefits as it has already been included and written about at length. However, as previously indicated in our comments and as noted by our customers we would also like to draw the Department's and public's attention to the benefits individual owner/generators derive by producing their own energy, providing additional load to the grid in most cases and additional benefits they receive from a sustainable, renewable generated, carbon footprint reducing DG facility.

We will now focus on current and future costs to not adopting a robust DG energy production strategy in Minnesota. While the current Minnesota Net Metering statute is doing a good job of providing a very small section of the potential owner market place with the opportunity to produce DG from small wind, Minnesota lags far behind many other states in the production, adoption and use of overall and small wind DG energy. In fact, most utilities in Minnesota have opinioned and commented that their current load needs will not increase over the next 15 years and therefor do not need DG sources of energy. This is troubling. Unlike other states and utility regions around the country, Minnesota utilities and coops for the most part are continuing their operations under a traditional utility model based on past years' experience adjusted for weather, expected economic developments and other contributing factors. Utilities have long planned their distribution system on a unidirectional flow of electricity to customers. They provide the energy and we buy it.

The current DG growth and growth envisioned in customer-side resource generation is an opportunity for all utilities and electric coops. However, to capture the benefits of onsite customer energy production utilities and electric coops must change the way they approach, plan for and treat DG energy production. In the past, and for many current electricity providers, their practices have been to add-back customer-sited DG to a customer's system load, treating these resources as demand response and effectively eliminating the benefits that the customer's DG could provide to the system. Utilities across the country are modifying this practice to incorporate DG load forecasting, resulting in the recognition of reduced demand. They are also adopting system upgrades and maintenance plans to reflect the savings DG provides. In many states that have more DG as a percent of the overall energy production, DG is also being figured into their peak-load planning. These utilities are also using demand-side management approaches to defer capital expenditures and save rate payers additional costs.

Instead of focusing on the so-called "costs" of DG in Minnesota, which are de minimis by any measure when you consider the actual dollar amount paid by the individual rate payer to support modest policies such as Minnesota's Net Metering rates for small DG in Minnesota, utility and electric coop energy providers should adopt and embrace industry wide policies that their colleagues are using to plan for DG load now and in the future. (We note, as has been indicated by numerous studies and other public comment, the current approximate 3 MW of small DG wind energy production in the State of Minnesota adds less than $.00000782 to the individual rate payer's annual bill.) This of course does not take into account the costs all Minnesotans pay for choosing to use a fossil fuel such as goal or oil to turn turbines to generate energy for their use.

Another real cost to Minnesota rate payers and one that is having a real effect on the adoption of additional DG in Minnesota is the cost of stalling and obstructing small wind DG facility power generation. The electric coop's overt non-interest and institutional attitude and practices are discouraging DG adoption in Minnesota. On a daily basis our customers and our project representatives in many areas throughout rural Minnesota run into an institutional attitude born out in practice that manifests in rural electrics "not wanting to see any DG and specifically small wind DG on "their grid."

This pervasive practice is slowing and hindering the growth of DG in Minnesota. For example, there is a real cost to an individual or small business who has decided to invest in their own DG generation, but because they are not being paid the statutorily mandated net metering rate for power produced by a qualifying facility under 40kW their entire DG project and investment is jeopardized. In addition to this illegal practice, the meetings that potential DG owner investors are having with their electric coops that provide them with false and misleading information and opinions that only lead to non-investment in DG is also cost. This is ironic because many of these potential DG wind generator owners are missing out on what is known across the country as some of the most consistent and sustained winds (clean-free energy) in the nation. Discouraging the harvesting of this renewable energy is having a chilling effect across Minnesota. These are just some of the examples of real costs to not embracing, planning for and promoting DG energy production in Minnesota.

<u>Net metering:</u>

RESD customers currently utilize Minnesota's Net Metering rates to create a viable and sustainable DG project that works for their farming, small business or individual energy needs. They also take advantage of Minnesota's Net Metering statute that allows a DG facility to also receive the retail rate from utilities and electric coops for net excess energy produced from their qualifying DG facility. We believe the current law and net metering policy in Minnesota works for on-site energy needs and projects that can be scaled to operational and business energy needs less than 40 kW. However, we recommend that the State adopt a broader and more robust net metering program to include all sizes and types of individual, business and public operations. A balanced approach and one that makes economic sense for both the DG facility owner and the utilities and electric coops should be adopted. The primary goal of any expansion of the State's net metering program should have sized-right DG at its core.

Minnesota is missing the benefit of additional DG at the 100 kW and under production level. The 40 kW – 100 kW capacity DG facility market should be a part of any State DG policy or net metering scheme. Some have suggested trading off the ability of DG owners to capture the net metering retail rate on net excess energy generated for a system of credits if the current, fairly low - 40 kW and under net metered retail rate is raised to a higher net metered limit (upwards of 1 MW). We believe the premise of raising the net meter limit (or cap) is sound and that it would create a market for additional DG energy production in Minnesota, however, we would caution that one prescription does not fit all.

- We recommend that the Minnesota net metering statutory limit on a qualified facility's capacity be raised to 75 kW. DG facilities with a rated capacity of 75 kW and under should receive the retail metered rate for net usage and 100% of any excess energy production. This would have minimal to no impact on rate payers.

- We suggest that one way the Minnesota Net Metering statute could be revised and expanded would be to use a graduated rate for DG facilities with a capacity greater than 75 kW but less than 500 kW. For example, as envisioned, under this "graduated" application of the Renewable Energy Avoided costs rate (to be determined), utilities and electric coops would pay the generator owner-producers up to 75% over usage or another determined cap percentage level over usage. This would encourage increased DG energy production and investment, but also make sure true "net metering" (an offsetting usage strategy) is occurring. Any additional energy generated above the cap-net usage rate could be either captured in a credit scheme for use by the individual owner generator or could be sold back to the grid at the utility's avoided cost or wholesale rate. This is only one idea, we are sure there are others that would make balanced economic sense at this capacity level.

- DG production by facilities with capacities above 501 kW may need their own policy that incorporates net metering and net usage with a graduated rate, credit and pricing scheme. We further recommend that the Department study and use the best practices and public policy from the 42 other states that have net metering programs. Many have much more flexible definitions that allow for right-sizing the DG energy production and type of DG facility with user-owner energy needs.

- RESD agrees with several of the previous comments that have suggested that third party investment or multiple investor models be envisioned and allowed under the Minnesota Net Meting statute/policy. This will not only increase private sector DG energy investment and project development, but would open up a vast untapped market for public and non-profit institutions that wish to generate and create their own energy.

  We believe investment capital can help provide Minnesota state, county and local public facilities and campuses with their own renewable DG facilities to meet their onsite energy needs while at the same time reduce their carbon/fossil fuel footprint. There is no reason why public institutions should not have their energy needs met by renewable DG facilities. The current Net Metering statute in Minnesota prohibits third party ownership. In order to make the economics work for small wind DG and other DG sources, the owner must be able to capture and use the various tax credits and depreciation afforded to them to make renewable DG economics work. Clearly non-profits and public institutions cannot take advantage of these economic incentives. The people of Minnesota should allow for their public institutions to be a part of the DG marketplace through public-private partnerships including but not limited to potential lease-back arrangements and multiple ownership arrangement for the financing of DG facilities.

Overall, we have a choice to move forward and stay stuck with a de minimis amount of DG production in Minnesota. There are those, like the electric coop utilities that want to stay stuck in the status quo and would be just fine with less than 3 MW of power being produced in our state and by small turbines that derive their energy from the wind. However, RESD believes that the vast majority of ratepayers, tax payers and utilities want to see DG growth in wind, solar and bio renewables. Xcel and Alliant are examples of utilities that are embracing the future of power generation and specifically localized small wind DG. Working together, we can all embrace renewables, small wind and broad DG production in the State of Minnesota to become less reliable on coal and other fossil burning - polluting fuels to meet our energy needs. Distributive generation is a benefit to individual energy users, local communities and their economies as well as all rate payers in the State of Minnesota. We look forward to the Department and the Administration pursuing DG energy growth policies that make sense for us all.

Sincerely,

Shawn Dooling
President, Renewable Energy SD, LLC

: H "Buck" Humphrey